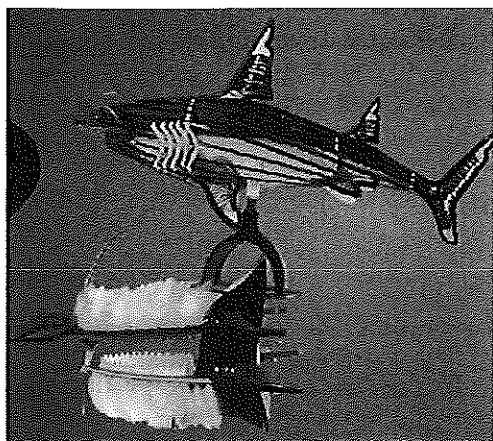


Integrating digital literacy in a student-centred learning environment through online learning resources

Lindsay Burns

What is this object?



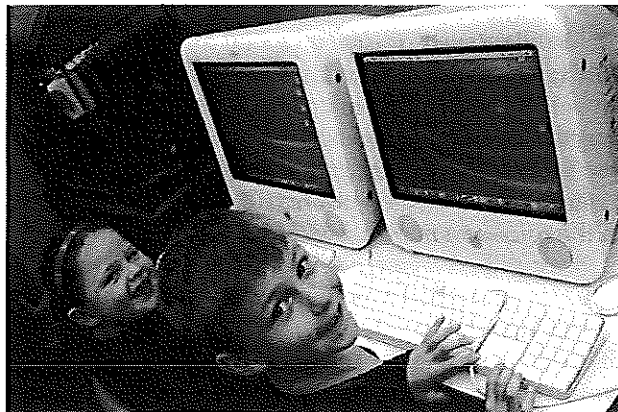
Two Year 4 students huddle close to a computer screen eagerly seeking the answer to what the mystery object is.

Thirty minutes earlier... these 'digital natives', generations who have grown up with computer technology, (Prensky, 2001) were presented with an image of a mysterious object, made by the Torres Strait Islander artist Ken Thaiday for the National Museum of Australia's collection. They made a prediction as to what they thought it was and entered it into the computer.

Twenty minutes earlier... they had learnt that the object was from the Torres Strait Islands. They analysed trade routes, inhabited islands and the significance of totems to the various island groups. Would their prediction of what the mystery object is be correct? Would it even be close?

Fifteen minutes earlier... they examined when the object was used and its size.

Ten minutes earlier... they examined the object up close in fine detail (like anthropologists do!).



Just two minutes earlier... they explored what the object could be used for. They quietly discuss what they believe the object is and type on the keyboard their re-examined prediction. These two child detectives, self-proclaimed prodigies, completely absorbed in solving their case, click excitedly on the button 'What is it?' Finally the mystery surrounding this object will be revealed.

More revelations were apparent than just the obvious in this online technological investigation. The children had learnt not only about the identity and cultural significance of a weird and unknown object, they had developed a deeper understanding of the Australian indigenous Torres Strait Island culture. They had engaged in literacy and made meaningful cross-curriculum connections using technology; all in thirty minutes...and they loved it.

Making connections

'Digital interactives' are computer programs that allow users to actively participate in making decisions. Educational interactives take the Information Communication Technologies (ICTs) traditionally used for leisure purposes in video games, and apply them as a tool within the field of education to enhance learning experiences. Rather than being passive viewers of information content, users of educational digital interactives have control of what they explore and engage with, as well as the pace of their learning.

The University of Sydney's Centre for Research on Computer Supported Learning and Cognition conducted a study in 2008 to explore the impact of ICT on students' learning. The Learning Federation's research (Freebody, Reimann & Tiu, 2008) involving surveys, direct observations and interviews, found that the majority of students enjoyed using ICTs to learn as they are interesting, fun and 'easy to work through'. Students indicated that the most valuable feature of using ICTs to learn is that it allows them to work at their own pace. Freebody and Muspratt (2007) found that students preferred learning objects that:

- allow them to interact with the learning object
- do not look like conventional classroom activities
- are generally game-like.

Freebody, Reimann and Tiu (2008, p. 4) found that there

is growing evidence in the research literature that certain classroom uses of ICT increase students' motivation to learn, engagement in learning and their independence in learning. The benefits of classroom use of ICT identified in the literature are increased levels of students' collaboration in learning, their higher levels of engagement and persistence in learning, and more on-task behaviour.

Using digital interactives is a great way to make cross-curriculum connections with literacy as they present information in more exciting and engaging ways. Freebody, Reimann & Tiu (2008, p. 4) explain how the advantages of using interactives is 'particularly strong for technologies that involve a visual element, such as digital video, multimedia, and software involving role-play and immersive elements. Language education has profited greatly from access to video and audio materials.' By using interactives where the user becomes the active participant, rather than the observer of content and information, allows for greater empathy. This is important as knowledge, skills and understandings are not just taught, but rather experienced by the student.

Interactives are a valuable tool for literacy learning. The story at the beginning of the article is a fine example of how students' curiosity was aroused within a digital environment. The students engaged with many interactive reading experiences to complete the activity.

Described below are three examples of digital interactives located on the National Museum of Australia website and the ways that they were used in one Year 4 classroom.

The National Museum of Australia website

One of the best websites offering interactive literacy resources is the National Museum of Australia's (NMA) website which contains a plethora of activities and internet links on an extensive range of historical topics. The activities have been designed by The Le@rning Federation to enhance the learning of outcomes in all Australian and New Zealand schools and meet the technological needs of students who now live in a digital age. This free website is suitable for children in middle to upper primary.

The Le@rning Federation

The Le@rning Federation (TLF) is a collaborative project between the Australian and New Zealand governments. It has been developing digital curriculum content for Australian and New Zealand schools since 2001. TLF has made many interactives for the NMA with topics including National Parks, The Gold Rush, Cobb & Co transport, The Golden Age of Cricket, Refugees and indigenous cultures. The earlier mentioned Torres Strait Island interactive was developed by the TLF. The interactives contain simple directions, help menus, high-quality graphics and often also contain sound and video clips and sequences.

The Gold Rush

The Gold Rush is an interactive where children take on the role of a miner at the Ballarat goldfields in the year 1865. As a miner they will have to buy all the necessary items needed including cradles, pans, food and tents, using a sparse amount of finance. They choose between alluvial or shaft mining, or perhaps try their hand at both. They learn about Australian and British currency conversions and the many challenges faced by the gold diggers. There is just so much for the children to explore, interact with and learn about. The other interactives offer comparative depths in learning experiences and required levels of reading, visual literacy, digital literacy and listening skills.

The interactives can be used in a variety of ways but are ideally suited to small groups of students because they can discuss the content explored and gain different perspectives on the issues from their peers. It is also important for children to keep a reflective journal or record of what they have learnt so they are made accountable for their own learning and so you as their teacher can assess what main cross-curriculum ideas and information they are learning. You could also use a topic information chart where each child records one piece of information or an insight they have learnt through

the interactive which has not previously been shared by another student. This type of accountability and processing of information could be explored in many other ways such as mind-maps, Plus/Minus/Interesting Facts (PMI) charts, and Hot Seat activities where several members of the class must answer questions from their peers and teacher while in role of a character being studied e.g. gold miner, trooper, child, mother, bushranger within the Gold Rush activity.

Another popular strategy that can be used as an observational assessment of learning from the interactives is a class discussion using the De Bono's Hats. All children in my class love wearing the De Bono's thinking 'cowboy' hats that develop



metacognition. The hats encourage students to analyse information in different ways. The yellow hat, for example, encourages students to find positive aspects of subject matter, while the red hat encourages children to describe how they feel about the subject matter (with or without reason). The hats allow children to unpack what they have learnt within an enjoyable and creative structure.

Everyone loves a good mystery

Children love playing detective, so why not engage children in literacy by allowing them to read information, gather clues and solve a mystery. Ryebuck Media and the National Museum of Australia have co-developed an Australian History Mysteries (AHM) Program, which is an online source for integrating literacy with technology and history. These interactives involve higher-order thinking and engagement with critical literacy. Some of them require previous knowledge on the topic such as the two player Ned Kelly Vs Constable McIntyre race to Glenrowan interactive.

The Kelly Country interactive involves students answering questions about Ned Kelly's life. The interactive is designed as a map, with players answering trivia questions in the role of Ned Kelly and Constable McIntyre. As they answer multiple-choice questions correctly they move forward to the next location on the map. For each wrong answer they move one place back on the map.

This type of trivia interactive is best used following research and study on a topic. One way to facilitate student centred learning before such an interactive is for students to complete a Blooms' Taxonomy research grid on a topic before using the interactive. Many Bloom's Taxonomy grids are available on the web on various topics that offer students choice in their learning and allow them to engage in learning at their particular ability level.

There are also two Australian History Mysteries kits with images and print materials available to purchase which furthermore engage children in open investigation tasks such as 'Who discovered Australia?' and 'Was Ned Kelly a hero or a villain?' The purpose of these kits is for students to conduct investigations before using the free online interactives.

Another way of linking trivia interactives to the English curriculum is to have students express their newfound knowledge in discussion, debate or creative presentations to further promote and enrich their online critical literacy experience. I have a drama box in my classroom, which my students love using to dress up as all sorts of interesting characters from various plays and books. Children love drama and allowing them to process and unpack digital literacy experiences to it is a valuable innovation.

Win a sausage sanger, pair of thongs or a sheep station!

Australian English is distinctly different from other forms of English as it has developed from many cultural contributions and has evolved through time. Children often encounter language that is distinctly Australian when studying Australia's past. To give students a deep understanding of the origins and meanings of Australian words and idioms, an 'Aussie English for the Beginner' interactive has been made available on the National Museum of Australia's website. The interactive gives students rich literacy experiences as they explore abbreviations such as mozzie, ute and sanger and language that has historical origins. The 'Aussie English Guide' includes many more categories for exploration and is accompanied by great cartoons by David Pope. Such categories include indigenous words, British dialects, similes

and terms associated with values and attitudes.

An interactive based purely on grammar, punctuation and language must be scaffolded further by a teacher and this type of interactive should not be explored in isolation. For example, if children are learning about similes, the teacher should give some examples before jointly constructing some as a whole class. The children could then create their own simile sentences about themselves such as 'Harry is as quick as a cheetah', and display these to enrich the environmental print within the classroom. The interactive could then be used within reading groups after these rich literacy experiences to further deepen the students' understanding of similes. Good teaching practice should always progress from teacher modelling to joint construction to independent construction and exploration.

The rich experiences in exploring Australian literacy are further complimented by a 'True Blue Aussie Quiz'. This is a great online resource that could even be used as an assessment. You could, for example, use the 'True Blue Aussie Quiz' as an assessment after three weeks of exploring the 'Aussie English Guide'.

Loving literacy without knowing it

Interactives can be effectively integrated into reading group programs. I program my reading group activities so that children rotate through five activities over five days. I involve children in such activities as readers' theatre, drama where students construct or rehearse plays, grammar, comprehension and listening post, where children listen and track the reading of an audio book and respond to it in various ways. Digital interactives make up one such activity my students experience within an array of engaging and different reading activities.

Using online resources to plan literacy experiences is effective. It is even better to plan these experiences in ways that make meaningful and rich connections across the curriculum. The National Museum of Australia interactives are just one resource available on the internet. Thousands more are just a Google search and the click of a mouse button away. What I have learnt through using such interactives and technology is that technology can be used to develop children's love for literacy ... without them even knowing it.

It is important to ensure that you carefully select search terms when searching for interactive literacy resources. I would recommend to include precise words on the topic such as 'gold rush', 'Antarctica' or 'grammar' and a variety of general terms

including online, interactive, literacy, interactive and learning. The more specific you are the better. Be sure to search sites that are from Australia in your search engine, and if using international sites, be sure to test their suitability to your syllabus. Some websites to get you started are listed below. I offer my best wishes to all the brave teachers, digital immigrants of this new age of learning, who are participating in the digital literacy revolution.

National Museum of Australia

http://www.nma.gov.au/education/school_resources/websites_and_interactives/

Powerhouse Museum

<http://www.powerhousemuseum.com/online/>

Australian Government: Department of Education, Employment and Workplace Relations

http://www.dest.gov.au/audience_segments/for_students/for_school_students.htm

Caboolture State School

<http://www.cabooltuss.eq.edu.au/Students/virtual/literacy/literacy.htm>

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Lindsay Burns is an experienced primary school teacher who has taught in schools for both the NSW Department of Education and Training and the Wollongong Catholic Education Office. He co-developed the 2008 National Reading Day activities for National Literacy and Numeracy Week and is currently a Coordinator at Nazareth Catholic Primary School, Shellharbour City Centre.

